WHAT IS CLAIMED IS

1. A fluorescent lamp comprising:

a glass tube both ends of which are sealed airtight and a discharge medium filled in the inside;

a fluorescent layer formed on the inner wall of the glass tube;

an inner electrode arranged at one end of the glass tube which is given with one electric potential; and

an outer electrode composed of a lineaqr conductor spirally wound around the glass tube between its both ends at a prescribed pitch along an axis of the tube and is given with another electric potential, wherein the outer electrode is so designed as to satisfy the formula:

$$w \times n \leqq 0.3$$

where w(cm) is a width of the conductor comprising the outer electrode and n(turns/cm) is the average number of turns of the conductor in the unit length in the axial direction of the glass tube.

2. A fluorescent lamp according to claim 1, wherein the discharge medium is a xenon gas or a mixture of a xenon gas and another rare gas.

3. A fluorescent lamp according to claim 2, wherein the outer surface of the outer electrode is covered with a translucent resin film layer togather with the glass tube, thereby fixing the outer electrode to the outer surface of the glass tube to form an integral part thereof.

4. A fluorescent lamp according to claim 3, wherein specific resistance of the linear conductor forming the outer electrode is 2×10^{-4} Ωcm or less.

5. A fluorescent lamp comprising:

a glass tube both ends of which are sealed airtight and a discharge medium filled in the inside;

a fluorescent layer formed on the inner wall of the glass tube;

a first feeding lead wire penetrating one of the sealing portions of the glass tube airtight;

an inner electrode connected to an end of the feeding lead wire extended into the glass tube;

a second feeding lead wire composed of a linear conductor which is spirally wound around an outer surface of the glass tube along an axial direction of the glass tube and an end of which is electrically connected to the second feeding lead wire;

wherein the outer electrode is so designed that a winding pitch of the linear conductor becomes continuously or stepwisely small corresponding to a distance from the inner electrode in the axial direction of the glass tube.

6. A fluorescent lamp according to claim 5, wherein the discharge medium is composed of a xenon gas or a mixture of axenon gas with another rare gas.

7. A fluorescent lamp according to claim 6, wherein the outer surface of the outer electrode is covered with a

translucent resin film together with the glass tube, thereby fixing the outer electrode to the outer surface of the glass tube to form an integral part thereof.

8. A fluorescent lamp according to claim 7, wherein one end of the second feeding lead wire is buried in the other sealing portion of the glass tube and the other end of the second feeding lead wire is led out of the glass tube.

9. A fluorescent lamp according to claim 7, wherein specific resistance of the linear conductor forming the outer electrode is 2×10^{-4} Ωcm or less.

10. A fluorescent lamp comprising:

a slender and translucent tube with sealing portions formed at its both ends;

a phosphor film formed on an inner surface of the translucent tube;

a discharge medium containing rare gas filled in the translucent tube;

a first feeding lead wire penetrated one of the sealing portions of the translucent tube and sealed therein airtight;

an inner electrode provided at an end of the first feeding lead wire, and

an outer electrode composed of a linear conductor which is spirally wound around the translucent tube for almost entire length of the tube in its axial direction and an end of which is connected to the second feeding lead wire;

wherein the outer electrode is provided with a tube power increasing means at a portion where a disturbed diffused positive column or a constricted positive column is generated in the translucent tube when the fluorescent lamp is operated.

11. A discharge lamp according to claim 10, wherein the winding pitch of the spirally wound linear conductor at the tube power increasing means is smaller than a winding pitch at the portion facing an adjacent diffused positive column.

12. A discharge lamp according to claim 11, wherein the winding pitch of the linear conductor of the outer electrode at the portion facing the diffused positive column becomes small as it aparts from the inner electrode.

13. A fluorescent lamp according to claim 12, wherein the discharge medium is composed of a xenon gas or a mixture of a xenon gas with another rare gas.

14. A fluorescent lamp according to claim 13, wherein the outer surface of the glass tube including the outer electrode is covered with a translucent resin film layer, thereby fixing the outer electrode to the outer surface of the glass tube to form an integral part thereof.

15. A fluorescent lamp according to claim 14, wherein specific resistance of the linear conductor forming the outer electrode is 2×10^{-4} Ωcm or less.

16. A discharge lamp comprising:

a long and slender translucent airtight container;

a phosphor film formed on an inner surface of the translucent container;

an inner electrode provided in the translucent airtight container;

a discharging medium primarily composed of a rare gas filled in the translucent airtight container; and

an outer electrode composed of a conductive coil which is substantially in contact with an outer surface of the translucent airtight container extending along its longitudinal direction apart from the inner electrode and which enables to generate discharge in the translucent container between the outer electrode and the inner electrode;

wherein the outer electrode containes at least one point of inflection where the winding pitch of the coil change from a small value to a large value.

17. A discharge lamp comprising:

a long and slender translucent airtight container;

a phosphor film formed on the inner surface of the translucent container;

a pair of inner electrodes sealed in the translucent container at both ends;

a discharge medium primarily composed of rare gas filled in the translucent airtight container; and

an outer electrode formed with a linear conductor coil

which is wound around the outer surface of the translucent airtight container along a longitudinal direction of the translucent airtight container at a prescribed pitch and which generates the discharge between the outer electrode a nd the pair of inner electrodes;

wherein the winding pitch of the outer electrode becomes minimum in a region pH facing a pair of constricted positive columns PCs generated in the translucent airtight container when the fluorescent lamp is in operation, becomes maximum at both ends in a region pV facing a diffused positive column PCd generated in the translucent airtight container, and decreases stepwisely from the both ends toward the central portion.

18. A discharge lamp comprising:

a slender and translucent tube having sealing portions formed at its both ends and being filled with a discharge medium;

an inner electrode which is arranged at one end of the translucent tube and is given with an electric potential; and

an outer electrode which is composed of a linear conductor which is spirally wound around the translucent tube between the both ends along an axis of the translucent tube at a prescribed pitch and is given with another potential;

wherein the outer electrode is so designed as to satisfy

the formula:

$$w \times n \leqq 0.3$$

where w(cm) is the width of the linear conductor forming the outer electrode and n(times/cm) is the average number of turns of windings per unit length in the axial direction of the translucent tube.

19. A discharge lamp comprising:

a translucent tube with a phosphor film formed on the inner surface and a discharge medium filled in the inside;

a first feeding lead wire penetrating one of the sealed portion of the translucent tube airtight;

an inner electrode connected to the end of the feeding lead wire extended in the translucent tube; and

an outer electrode composed of a linear conductor spirally wound around the outer surface of the translucent tube along its axial direction and is electrically connected to a second feeding lead wire;

wherein the outer electrode is so designed that the winding pitch of the linear conductor becomes smaller continuously or stepwisely in the axial direction of the translucent tube according to a distance from the inner electrode.

20. A discharge lamp comprising:

a translucent tube having sealing portions formed at its both ends;

a discharge medium including rare gas filled in the

translucent tube;

a first feeding lead wire sealed penetrating airtight one of the sealing portions of the translucent tube;

an inner electrode provided at an end of the first feeding lead wire; and

an outer electrode composed of a linear conductor which is spirally wound around the translucent tube for almost entire length in an axial direction of the tube and an end of which is connected to a second feeding lead wire;

wherein the outer electrode is provided with a tube power increasing means at a portion facing a disturbed diffused positive column or a constricted positive column generated in the translucent tube when the discharge lamp is in operation.

21. A liquid crystal display backlighting device comprising:

a main body;

a fluorescent lamp according to one of claims 1 through 15 provided to the main body; and

a lighting circuit to turn on the fluorescent lamp.